

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

---

REPORT NO. 3593

THE ATCHISON, TOPEKA AND SANTA FE  
RAILWAY COMPANY

IN RE ACCIDENT

NEAR SHATTUCK, OKLA., ON

OCTOBER 6, 1954

---



SUMMARY

Date: October 6, 1954

Railroad: Atchison, Topeka and Santa Fe

Location: Shattuck, Okla.

Kind of accident: Derailment

Train involved: Passenger

Train number: 4

Engine number: Diesel-electric units 77,  
59A, and 59

Consist: 8 cars

Speed: 77 m. p. h.

Operation: Signal indications

Track: Single; 1°04' curve; 0.20 percent  
ascending grade eastward

Weather: Misting

Time: 10:17 a. m.

Casualties: 21 injured

Cause: Broken rail



INTERSTATE COMMERCE COMMISSION

---

REPORT NO. 3593

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS  
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY

---

November 3, 1954

---

Accident near Shattuck, Okla., on October 6, 1954, caused  
by a broken rail.

---

<sup>1</sup>  
REPORT OF THE COMMISSION

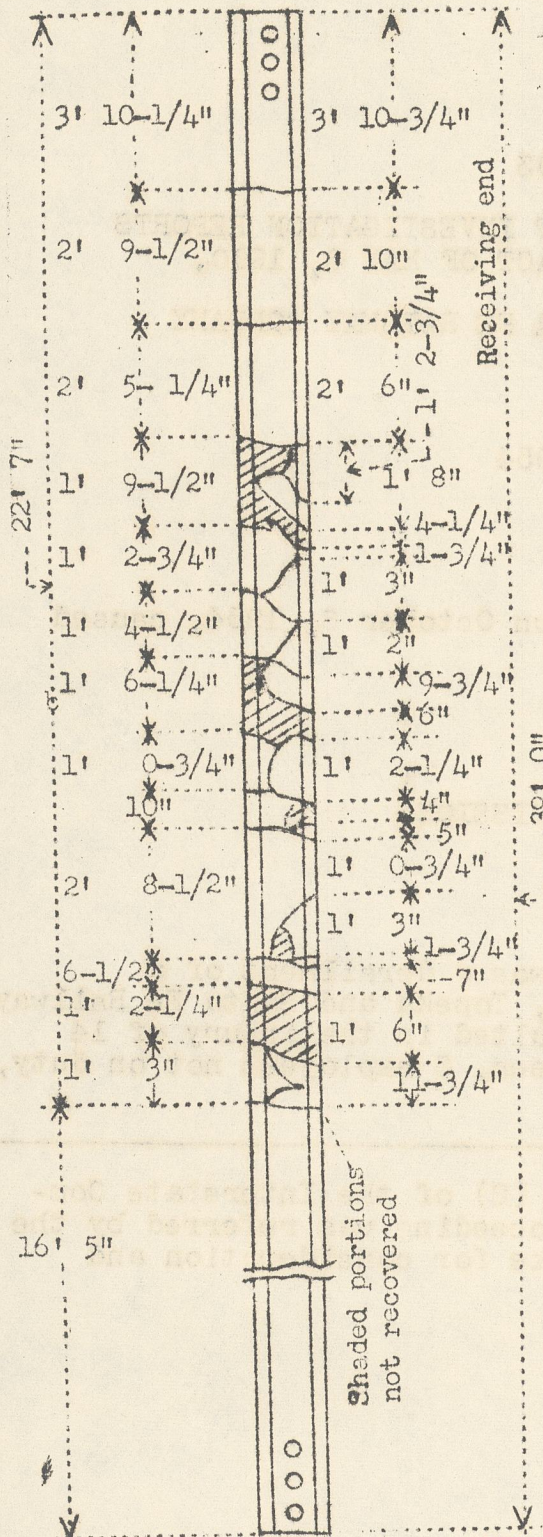
CLARKE, Commissioner:

On October 6, 1954, there was a derailment of a passenger train on the Atchison, Topeka and Santa Fe Railway near Shattuck, Okla., which resulted in the injury of 14 passengers, 2 dining-car employees, 3 employees not on duty, and 2 train-service employees.

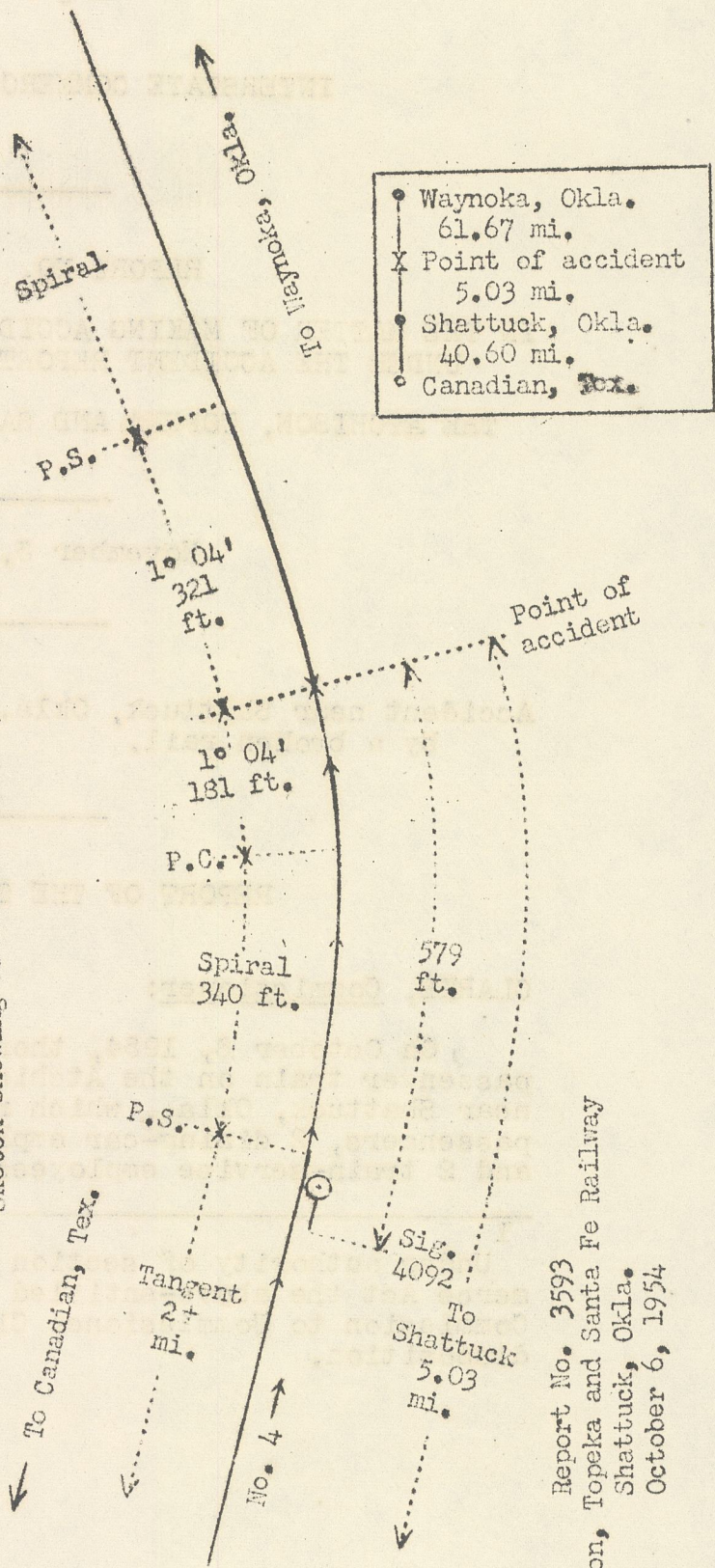
---

<sup>1</sup>  
Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.





Sketch showing broken rail-south side of track



Report No. 3593  
Atchison, Topeka and Santa Fe Railway  
Shattuck, Okla.  
October 6, 1954



### Location of Accident and Method of Operation

This accident occurred on that part of the Plains Division extending between Canadian, Tex., and Waynoka, Okla., 107.3 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by signal indications. The accident occurred on the main track at a point 45.63 miles east of Canadian and 5.03 miles east of the station at Shattuck, Okla. From the west there are, in succession, a tangent more than 2 miles in length, a spiral 340 feet, and a 1°04' curve to the left 181 feet to the point of accident and 321 feet eastward. The grade is 0.20 percent ascending eastward at the point of accident.

The track structure consists of 131-pound rail, 39 feet in length, laid new in May, 1945, on an average of 24 treated ties to the rail length. It is fully tieplated with double-shoulder tieplates and is spiked with two rail-holding spikes and two plate-holding spikes per tieplate. It is provided with 6-hole 36-inch joint bars and an average of nine rail anchors per rail, and it is ballasted with crushed rock to a depth of 10 inches below the bottoms of the ties.

Automatic signal 4092, governing east-bound movements, is located 597 feet west of the point of accident.

The maximum authorized speed for passenger trains in the vicinity of the point of accident is 79 miles per hour.

### Description of Accident

No. 4, an east-bound first-class passenger train, consisted of Diesel-electric units 77, 59A, and 59, coupled in multiple-unit control, one baggage-mail car, four baggage-express cars, one chair car, one diner-chair car, and one sleeping car, in the order named. All cars were of all-steel construction. This train departed from Shattuck at 10:10 a. m., on time, and while moving at a speed of 77 miles per hour the rear truck of the third car, and the fourth to the eighth cars, inclusive, were derailed at a point 5.03 miles east of the station at Shattuck.

Separations occurred between the fifth and sixth cars and between the sixth and seventh cars. The front portion of the train stopped with the front of the locomotive 2,282 feet east of the point of derailment. The third, fourth, and fifth cars remained upright and approximately in line with the track. The sixth car stopped on its right side, approximately 18 feet south of the track and parallel to it; the east end was 935



feet east of the point of derailment. The seventh and eighth cars stopped upright and in line. The east end of the seventh car was 501 feet east of the point of derailment and 7 feet south of the track, and the west end of the eighth car was 15 feet south of the track. The sixth car was considerably damaged, and the other cars were somewhat damaged.

The conductor and the train porter were injured.

The weather was cloudy and it was misting at the time of the accident, which occurred at 10:17 a. m.

#### Discussion

As No. 4 was approaching the point where the accident occurred the speed was 77 miles per hour, as indicated by the tape of the speed-recording device. The enginemen were in the control compartment at the front of the locomotive, the conductor and the train porter were in the sixth car, and the flagman was in the eighth car. Signal 4092 indicated Proceed. The enginemen said the locomotive was riding smoothly and there were no indications of defective track or equipment. They were not aware that anything was wrong until the brakes became applied in emergency as a result of the derailment. Two train baggagemen who were in the second car said that immediately before the brakes were applied something struck the underside of the car and they thought from the movements of the car that the rear truck had become derailed. The employees in the sixth and eighth cars said that before the derailment occurred the cars had been riding smoothly.

Examination of the locomotive and cars after the accident occurred disclosed no condition which could have caused or contributed to the cause of the accident. A battery box underneath the south side of the second car bore indications of having been struck by some object. The sill step on the right side of the rear end of this car was bent outward, and a steam pipe and one brake beam under the car were bent. Examination of the track disclosed no indication of dragging equipment nor of an obstruction having been on the track.

After the accident occurred a broken rail was found in the south side of the track. This rail was rolled by the Colorado Fuel and Iron Corporation in February 1945, and bore heat number 5 16100 E. It was broken into many pieces, 22 of which were recovered. The first three fractures occurred at



points, respectively, 3 feet 10-3/4 inches, 6 feet 7-3/4 inches, and 9 feet 1 inch east of the receiving end of the rail. The other fractures occurred throughout a distance of 13 feet 6 inches immediately east of the third fracture. Examination of the rail disclosed that prior to the time of the accident compound fissures had existed in the head of the rail at the points where the first and third breaks occurred. The fissure at the first break covered approximately 40 percent of the cross-sectional area of the head, and the appearance of the metal indicated that it had been in existence for some time. Apparently after the first break occurred the broken end was struck by the wheels of the locomotive of No. 4 with sufficient force to cause other breaks, and the derailment occurred after a portion of rail was dislodged.

A rail-defect detector car was last operated over this territory on February 19, 1954. At that time no defective condition of the rail involved was indicated. The track in the vicinity of the point of accident was last inspected by the section foreman about 9 a. m. on the day before the accident occurred, and by the track supervisor about 12:30 p. m. the same day. No defective condition was observed. One west-bound and two east-bound freight trains passed the point of derailment between 8:30 a. m. and 9:10 a. m. on the day of the accident. The signals functioned properly for the movement of these trains, and the members of the crews reported no unusual condition of the track.

Cause

This accident was caused by a broken rail.

Dated at Washington, D. C., this third day of November, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,  
Secretary.



